UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,419	01/10/2007	Thomas Stiefel	251507	3656

23460 7590 04/25/2011

LEYDIG VOIT & MAYER, LTD
TWO PRUDENTIAL PLAZA, SUITE 4900
180 NORTH STETSON AVENUE
CHICAGO, IL 60601-6731

EXAMINER
FISHER, ABIGAIL L

ART UNIT	PAPER NUMBER
1616	

NOTIFICATION DATE	DELIVERY MODE
04/25/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Chgpatent@leydig.com

Office Action Summary	Application No.	Applicant(s)	
	10/575,419	STIEFEL, THOMAS	
	Examiner	Art Unit	
	ABIGAIL FISHER	1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 January 2011*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4,6-9 and 21-39* is/are pending in the application.

4a) Of the above claim(s) *24-39* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 4, 6-9 and 21-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Receipt of Amendments/Remarks filed on January 27 2011 is acknowledged. Claims 2-3, 5 and 10-20 were/stand cancelled. Claims 1, 4, 6-8 and 21-22 were amended. Claims 1, 4, 6-9 and 21-39 are pending. Claims 24-39 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on September 15 2010. Claims 1, 4, 6-9 and 21-23 are directed to the elected invention.

Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The rejection of claims 1-4 and 8-9 under 35 U.S.C. 102(b) as being anticipated by Brockbank et al. (US Patent No. 5110722, cited in the Office action mailed on 8/19/10) is **withdrawn** in light of Applicant's amendments filed on January 27 2011.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Applicant Claims
2. Determining the scope and contents of the prior art.
3. Ascertaining the differences between the prior art and the claims at issue, and resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Modified Rejection Based on amendments in the reply filed on January 27 2011

Claims 1, 4, 6-9 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lundy (US Patent No. 4512977, cited in the Office action mailed on 10/28/11) in view of Lavin et al. (British Medical Journal, 1986, cited in the Office action mailed on 10/28/11) and Das (Nutrition, 2001).

Applicant Claims

The instant application claims a pharmaceutical composition comprising an aqueous solution of a corticoid in 0.5-50 mg/ml, a selenium containing compound in 5 to 500 μg/ml and insulin.

Determination of the Scope and Content of the Prior Art (MPEP §2141.01)

Lundy is directed to therapeutic selenium compositions and the use thereof. It is taught that selenium composition exhibit anti-inflammatory properties without the detrimental side effects of some known material of known materials which exhibit anti-inflammatory properties. It is taught that the selenium composition of the invention may be combined with materials having compatible properties to form compositions exhibiting the beneficial effects of the selenium compounds as well as enhanced beneficial effects of these other materials (column 3, lines 7-15). It is taught that the anti-inflammatory properties of the selenium compositions of the invention provide useful advantages when employed alone or with other materials utilized. For example steroids have been alleged to possess anti-inflammatory properties. Steroids include cortisone and hydrocortisone (columns 2-3, lines 67-68 and 1-6). The amount of selenium taught is on the order from about 0.005 to 2 mg (5 to 2000 micrograms). It is taught that the therapeutic composition may be made in various physicals forms for well known methods of administration. The composition can be in a suitable for injectable, topical, suppository and oral administration. The choice of the particular carrier or vehicle and other additives present will depend on the form desired (column 4, lines 54-61). Exemplary carriers include liquids such as water or isotonic aqueous solutions, saline solutions and alcohol (column 5, lines 6-10). In the case of the injectable form, the therapeutic selenium compound is dissolved in distilled or sterilized water to form a parenteral preparation or it can be mixed with intravenous infusions such as glucose or saline (column 5, lines 36-40). Selenium compounds exemplified include sodium

selenite (example 1). As claimed the compositions are useful in alleviating irritation and redness in the eyes (claim 14).

Ascertainment of the Difference Between Scope the Prior Art and the Claims
(MPEP §2141.012)

While Lundy teach that the selenium of the invention can be combined with materials having compatible properties and teach steroids such as hydrocortisone are known to possess anti-inflammatory properties, Lundy does not exemplify utilizing hydrocortisone in combination with selenium. However, this deficiency is cured by Lavin et al.

Lavin et al. is directed to the use of steroid eye drops in general practice. It is taught that treatment with steroids, whether systemic or topical, reduces the body's ability to mount an inflammatory response to an injury whether infective or non-infective (page 1448, first sentence). Exemplified treatment of steroids includes hydrocortisone in 0.5 or 1.5% (table II). An exemplary disease where steroid treatment is beneficial includes allergic conjunctivitis (table III).

While Lundy teaches that the selenium of the invention can be combined with materials having compatible properties, Lundy does not teach the addition of insulin. However, this deficiency is cured by Das.

Das suggests that insulin suppresses the section and antagonizes the harmful effects of tumor necrosis factor-α, macrophage migration0inhibitor factor and superoxide anion (abstract). Studies support the notion that insulin has anti-inflammatory actions (page 411, right column, last complete paragraph).

Finding of Prima Facie Obviousness Rationale and Motivation

(MPEP §2142-2143)

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to combine the teachings of Lundy, Das and Lavin et al. and utilize a steroid such as hydrocortisone and insulin in combination with sodium selenite in a pharmaceutical formulation. One of ordinary skill in the art would have been motivated to utilize these active agents as Lundy teach combining selenium (a compound that possess anti-inflammatory properties) with materials which have compatible properties and Lundy and Lavin et al. both teach that steroids are known anti-inflammatory compounds as well as Das teaches that insulin possess anti-inflammatory properties. As a general principle it is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose, the idea of combining them flows logically from their having been individually taught in the prior art. See *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980) **MPEP 2144.06.**

Regarding the claimed dosage form, Lundy teach that the therapeutic composition may be made in various physicals forms for well known methods of administration and that the choice of the particular carrier or vehicle and other additives present will depend on the form desired. Exemplary carriers include liquids such as water. Therefore, it would have been obvious to one of ordinary skill in the art to utilize the selenium in well known carriers such as water as taught by Lundy.

Regarding the claimed amount of selenium compound, Lundy teaches an amount that overlaps that instantly claimed. In the case where the claimed ranges

"overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists. **See MPEP 2144.05 [R-5]**

Regarding the claimed amount of corticoid, Lavin et al. exemplify amounts of 0.5 and 1.5% (5 and 15 mg/ml) which read on the instantly claimed amount.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lundy in view of Lavin et al. and Das and in further view of Kuklinski et al. (WO 03047604, cited in the Office action mailed on 10/28/10).

Applicant Claims

The instant application claims the selenium utilized is sodium selenite pentahydrate.

Determination of the Scope and Content of the Prior Art (MPEP §2141.01)

The teachings of Lundy and Lavin et al. are set forth above. Lundy teaches utilizing the anti-inflammatory agent selenium (sodium selenite) in various formulations, including aqueous formulations, for treating diseases such as eye redness. Lavin et al. teach that steroids such as hydrocortisone are anti-inflammatory agents.

Ascertainment of the Difference Between Scope the Prior Art and the Claims *(MPEP §2141.012)*

Lundy does not teach utilizing sodium selenite pentahydrate. However, this deficiency is cured by Kuklinski et al.

Kuklinski et al. (wherein USPGPUB No. 20050048134 is utilized as the English language equivalent of the WIPO document) is directed to the use of selenite containing

compounds. The selenium compounds are taught for the treatment of inflammatory diseases (paragraph 0019). Example 1 is directed to the use of sodium selenite pentahydrate in an aqueous solution.

Finding of Prima Facie Obviousness Rationale and Motivation (MPEP §2142-2143)

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to combine the teachings of Lundy, Lavin et al. and Kuklinski et al. and utilize sodium selenite pentahydrate as the selenium containing compound. One of ordinary skill in the art would have been motivated to utilize sodium selenite pentahydrate as Lundy teach utilizing sodium selenite as an anti-inflammatory material and Kuklinski et al. teach utilizing sodium selenite pentahydrate for the treatment of inflammatory diseases. It would have been obvious to one of ordinary skill in the art to try known forms of sodium selenite that are known anti-inflammatory materials as a person with ordinary skill has good reason to pursue known options within his or her technical grasp. **Note: MPEP 2141 [R-6]** *KSR International CO. v. Teleflex Inc.* 82 USPQ 2d 1385 (Supreme Court 2007).

Response to Arguments

Applicant's arguments with respect to claims 1, 4, 6-9 and 21-23 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues that the present invention involves surprising and unexpected results. The specification describes a clinical study in which administration of selenium (1000 microgram bolus per day followed by further daily bolus injections with 1000 pg

selinite for 14 days and 35 mg sodium selenate per day as a basis) together with hydrocortisone (200 mg continuously over 24 hours) with blood sugar adjustment showed a reduced mortality rate.

This argument is not persuasive.

While the examiner recognizes the unexpected results presented in the specification, these results are not commensurate in scope with the claims. Firstly, the instant claims are directed to a single composition comprising selenium, a corticoid and insulin. It is unclear if the results presented in the specification are where the three ingredients are administered separately at different times (which it what it appears to be) or as one composition which is what is claimed. Secondly, the amounts taught in the clinical study in the specification are not commensurate in scope with what is claimed. In fact, they are outside the range claimed. Applicants claim 0.5 to 50 mg/ml of a corticoid, but the clinical study uses 200 mg hydrocortisone. Applicants claim 5 to 500 microgram/ml of selenium compound but the clinical study uses 1000 microgram and then 1000 pg. Applicant has not shown the “unexpectedness” of the claimed range. The instant claims are not commensurate in scope with purported unexpected results. Therefore, the rejection is maintained since applicant has not provided any persuasive arguments to overcome the rejection.

Conclusion

No claims are allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ABIGAIL FISHER whose telephone number is (571)270-3502. The examiner can normally be reached on M-Th 9am-6pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Abigail Fisher
Examiner
Art Unit 1616

AF

/Johann R. Richter/

Supervisory Patent Examiner, Art Unit 1616